

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: RSA

Report Number: P219648

Luminaire Tested: **MRZ-1-REC-X-2-L30-97-NFL-UNV-X-STD-SFL**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219648  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14873)  
Test Lab: INNOVATION CENTER (G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: RSA  
Catalog Number: MRZ-1-REC-X-2-L30-97-NFL-UNV-X-STD-SFL  
Description: MRZ INTEGRAL LED DOWNLIGHT  
25 DEGREE NARROW FLOOD OPTIC WITH SOFT FOCUS LENS, LIGHT LEVEL2  
Light Source: (1) 3000K CCT, 97 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 671.4 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Spacing Criteria (0/90/45): 0.41 / 0.41 / 0.4  
Luminous Opening: Circular (Dia: 0.17' x H: 0')  
CIE Type: Direct

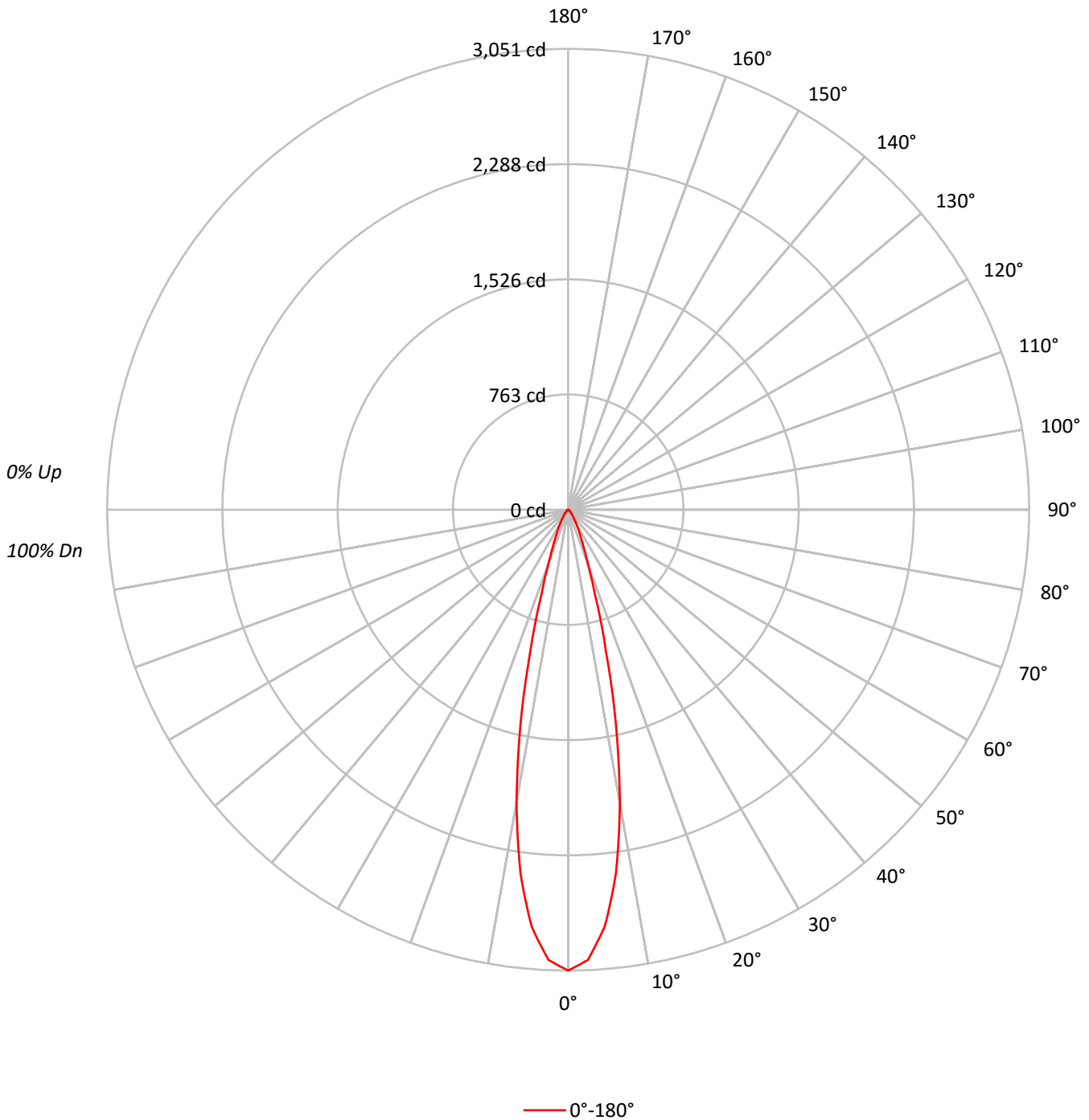
Input Watts (W): 8.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |     |     | 20  |     |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |     | 30  |     |     |     | 10  | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1   | 115 | 113 | 111 | 109 | 112 | 110 | 109 | 107 | 106 | 105 | 104 | 103 | 102 | 101 | 99  | 99  | 98  | 96  |
| 2   | 111 | 107 | 104 | 101 | 109 | 105 | 102 | 100 | 102 | 100 | 98  | 99  | 97  | 96  | 97  | 95  | 94  | 92  |
| 3   | 107 | 102 | 98  | 95  | 105 | 101 | 97  | 95  | 98  | 95  | 93  | 96  | 94  | 92  | 94  | 92  | 90  | 89  |
| 4   | 103 | 98  | 94  | 91  | 102 | 97  | 93  | 90  | 95  | 92  | 89  | 93  | 90  | 88  | 91  | 89  | 87  | 86  |
| 5   | 100 | 94  | 90  | 87  | 99  | 93  | 89  | 86  | 92  | 88  | 85  | 90  | 87  | 85  | 89  | 86  | 84  | 83  |
| 6   | 97  | 91  | 86  | 83  | 96  | 90  | 86  | 83  | 89  | 85  | 82  | 87  | 84  | 82  | 86  | 83  | 81  | 80  |
| 7   | 94  | 88  | 83  | 80  | 93  | 87  | 83  | 80  | 86  | 82  | 80  | 85  | 82  | 79  | 84  | 81  | 79  | 78  |
| 8   | 92  | 85  | 80  | 77  | 91  | 84  | 80  | 77  | 83  | 80  | 77  | 82  | 79  | 77  | 82  | 79  | 76  | 75  |
| 9   | 89  | 82  | 78  | 75  | 88  | 82  | 78  | 75  | 81  | 77  | 75  | 80  | 77  | 74  | 79  | 76  | 74  | 73  |
| 10  | 87  | 80  | 76  | 73  | 86  | 79  | 75  | 73  | 79  | 75  | 73  | 78  | 75  | 72  | 77  | 74  | 72  | 71  |

**AVERAGE LUMINANCE (cd/sqm):**

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 1505202 |
| 5°  | 1373070 |
| 10° | 987803  |
| 15° | 490710  |
| 20° | 199884  |
| 25° | 103215  |
| 30° | 60617   |
| 35° | 35175   |
| 40° | 22156   |
| 45° | 15071   |
| 50° | 9825    |
| 55° | 6193    |
| 60° | 3947    |
| 65° | 3736    |
| 70° | 2308    |
| 75° | 1525    |
| 80° | 2273    |
| 85° | 0       |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 238.9  | 35.6      |
| 10°-20°   | 273.0  | 40.7      |
| 20°-30°   | 92.9   | 13.8      |
| 30°-40°   | 38.7   | 5.8       |
| 40°-50°   | 16.9   | 2.5       |
| 50°-60°   | 6.8    | 1.0       |
| 60°-70°   | 2.9    | 0.4       |
| 70°-80°   | 1.2    | 0.2       |
| 80°-90°   | 0.1    | 0.0       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 604.8  | 90.1      |
| 0°-40°    | 643.5  | 95.8      |
| 0°-60°    | 667.3  | 99.4      |
| 0°-90°    | 671.4  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 671.4  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | Flux |
|-----|------|------|
| 0°  | 3051 |      |
| 5°  | 2772 | 239  |
| 15° | 961  | 273  |
| 25° | 190  | 93   |
| 35° | 58   | 39   |
| 45° | 22   | 17   |
| 55° | 7    | 7    |
| 65° | 3    | 3    |
| 75° | 1    | 1    |
| 85° | 0    | 0    |
| 90° | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

| 0°    |        |
|-------|--------|
| 0°    | 3050.8 |
| 2.5°  | 2983.6 |
| 5°    | 2772.4 |
| 7.5°  | 2426.0 |
| 10°   | 1971.7 |
| 12.5° | 1457.4 |
| 15°   | 960.7  |
| 17.5° | 593.5  |
| 20°   | 380.7  |
| 22.5° | 258.4  |
| 25°   | 189.6  |
| 27.5° | 141.6  |
| 30°   | 106.4  |
| 32.5° | 79.2   |
| 35°   | 58.4   |
| 37.5° | 44.0   |
| 40°   | 34.4   |
| 42.5° | 26.4   |
| 45°   | 21.6   |
| 47.5° | 16.8   |
| 50°   | 12.8   |
| 52.5° | 9.6    |
| 55°   | 7.2    |
| 57.5° | 5.6    |
| 60°   | 4.0    |
| 62.5° | 3.2    |
| 65°   | 3.2    |
| 67.5° | 2.4    |
| 70°   | 1.6    |
| 72.5° | 1.6    |
| 75°   | 0.8    |
| 77.5° | 0.8    |
| 80°   | 0.8    |
| 82.5° | 0.0    |
| 85°   | 0.0    |
| 87.5° | 0.0    |
| 90°   | 0.0    |

(END OF REPORT)